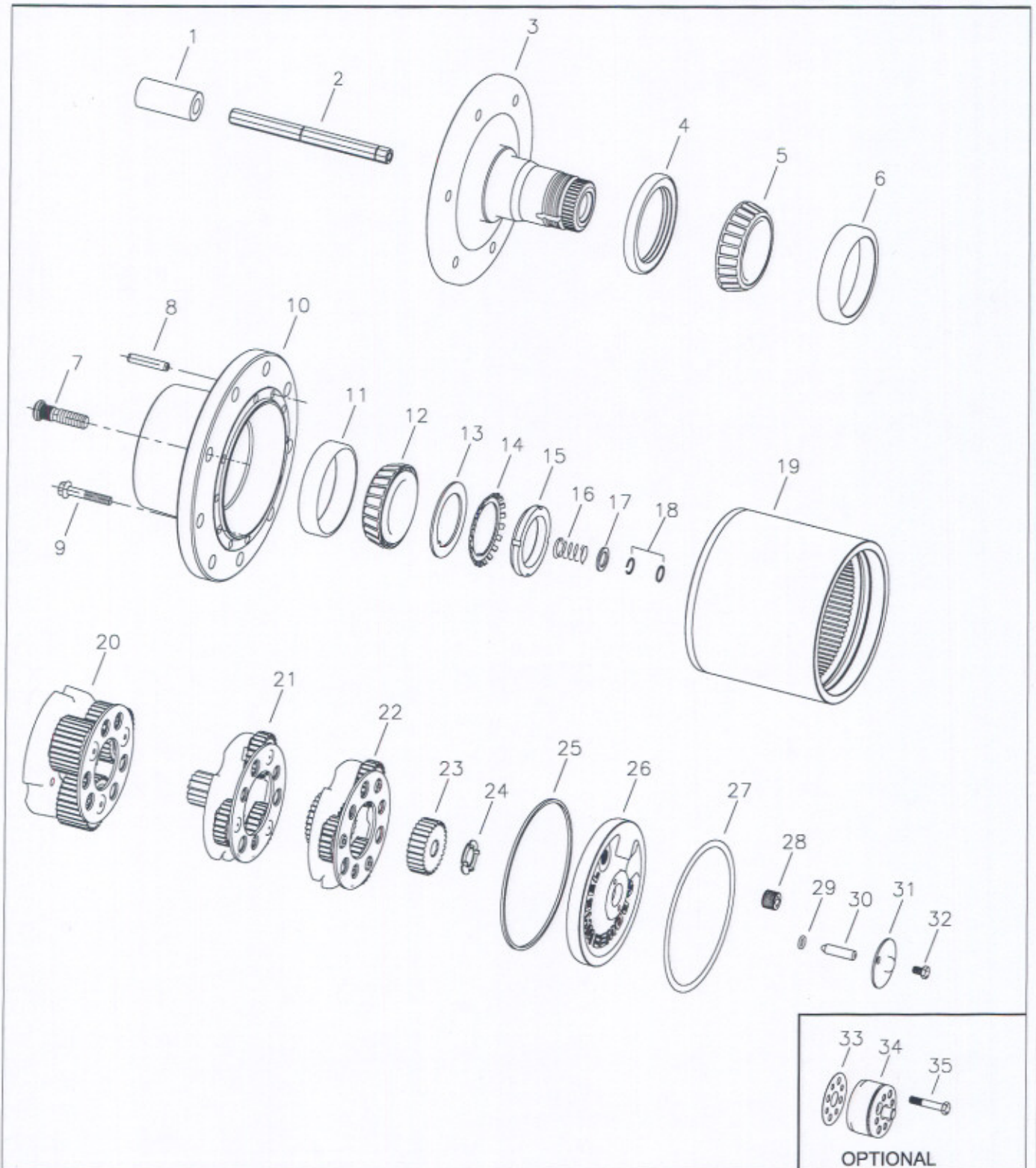


Power Wheel® Service Manual
Model 75 Triple Reduction
Wheel Drives



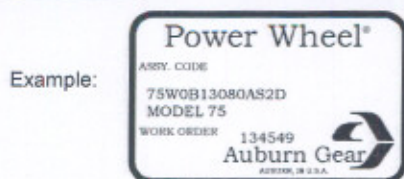
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IDENTIFICATION

IMPORTANT: All Power Wheel units and kits are shipped with a label that includes the Auburn Gear part number and order code.



In addition to the label, Power Wheel drives are stamped with date code and work order number, which appears on the cover or hub flange as shown.

Example: D4 15 SAT, 134549

When ordering parts, the information included on the label or the stamped identification number is necessary to accurately identify the drive and obtain the correct replacement parts. Once this information has been obtained, contact Auburn Gear for the appropriate parts list.

DISASSEMBLY OF POWER WHEEL

STEP 1

Slide the coupling (1) from splines on input shaft (2).

STEP 2

Position the assembly upright on face of spindle (3).

STEP 3

Remove the disengage cover (31) if necessary.

STEP 4

Remove ring retaining (27) and the large cover (26) from the unit. The thrust washer (24) and the disengage plunger (30) usually remain attached to the large cover (26) when it is removed. Remove thrust washer (24), disengage plunger (23) and "O" ring (29) from the large cover (26).

STEP 5

Remove primary sun gear (23) from end of input shaft (2).

STEP 6

Remove the third carrier assembly (22).

STEP 7

Remove the primary carrier assembly (21).

STEP 8

Remove the secondary carrier assembly (20).

STEP 9

Remove the input shaft (2) from spindle (3). Remove the retaining rings (18), washer (17), and disengage spring (16) from input shaft (2) only if replacement is required.

STEP 10

One tab of lock washer (14) will be engaged in slot of bearing nut (15); bend back to release. Remove the bearing nut (15), lock washer (14) and thrust washer (13). **NOTE:** A special locknut wrench, 596Z, is required for the removal of the bearing locknut. Contact Auburn Gear for procurement of wrench and other service tools.

STEP 11

Place assembly in press with spindle (3) down on hub flange (10) place material under spindle so not to damage when its pressed out of hub. Care should be taken to avoid damaging splines and threads on spindle while pressing it out. **NOTE:** Bearing cone (12) has been designed with a press fit with respect to spindle (3). Considerable force will be required to remove cone from spindle.

STEP 12

Remove the oil seal (4) and bearing cones (5 & 12) from hub (10). Inspect bearing cups (6 & 11) in position and remove only if replacement is required.

ASSEMBLY OF POWER WHEEL

STEP 1

Press new bearing cups (6 & 11) in each side of the hub (10). It is recommended that bearing cups (6 & 11) and cones (5 & 12) be replaced in sets.

STEP 2

Assemble bearing cone (5) into cup (6) at seal end of hub (10) and press a new seal (4) into hub (10).

STEP 3

Position spindle (3) upright on bench. Lubricate lips of seal (4) and lower hub (10) onto spindle (3). Hub (10) should be centered as it is lowered over spindle (3) to prevent seal damage. **NOTE:** [On heavy duty seals there is to be no lubricate on seal (4), spindle (3), or hub (10)].

STEP 4

Assemble bearing cone (12) over spindle (3). Press bearing cone (12) over spindle bearing journal using press and cylindrical bearing cone driver 598E. Press bearing cone (12) down until rollers just touch cup (11). Take care to avoid pressing cone (12) too far. **NOTE:** If a press is not available, place tool 598E over splined end of spindle (3) on the edge of bearing cone (12) and drive into place with hammer or mallet.

If this method is used, care must be taken to avoid damage to bearing cone and spindle.

STEP 5

Install thrust washer (13) with tab in keyway of spindle and bearing nut (15). **DO NOT install lock washer (14) at this time.**

STEP 6

Clean mating surfaces and apply a bead of silicone sealant to face of hub (10) that mates with ring gear (19). See instructions on sealant package. Hub (10) is attached to ring gear (19) with 6 3/8-24 grade 8 hex head cap screws (9). Torque cap screws to 52 - 60 lb.-ft. (70 - 81 Nm).

STEP 7

Place spindle drive tool, 598FF, over spindle (3). Make sure center bolt of drive tool is not touching spindle and is prevented from rotating by jam nuts provided on tool.

STEP 8

Check initial rolling torque by installing a lb.-in. torque wrench (arm or dial type) on center nut of spindle drive tool and turning hub (10) slowly and steadily with the torque wrench. Note mean torque. An initial bearing torque of greater than 46 lb.-in means that the cone (12)

was pressed on too tightly in step 4. In this case, back off bearing cone (12) by pressing spindle (3) out of cone (12) until initial preload is relieved. See step 10 of disassembly procedure.

STEP 9

Torque bearing nut (15) with bearing nut wrench 596Z until a bearing rolling torque of 38 - 46 lb.-in. is reached. This may require several trials of pressing the cone (12) by torquing the nut (15) and then checking the rolling torque. Rotate hub (10) by hand as nut is being tightened in order to seat bearings. **Note:** Up to 250 lb.-ft. of torque may have to be applied to bearing nut (15) in order to press cone (12) into position.

STEP 10

Remove bearing nut (15) and install lock washer (14). Replace bearing nut (15).

STEP 11

Re-torque bearing nut (15) to 60 - 70 lb.-ft. (80 - 94 Nm).

STEP 12

Secure bearing nut (15) by bending a lock washer (14) tab into one of four bearing nut slots. If no tab aligns with a slot, the nut may be tightened until one of the slots aligns with a lock washer tab.

STEP 13

Assemble a washer (17), spring (16) and a retaining rings (18) in the middle groove of input shaft (2). Install a second retaining ring (18) in groove near small end of input shaft (2).

STEP 14

Assemble the long end of the input shaft (2) with spring, thrust washer and retaining ring in this order down into spindle (3).

STEP 15

Assemble the secondary carrier assembly (20) to spindle (3).

STEP 16

Assemble the primary carrier assembly (21) into the ring gear (19). It will be necessary to rotate carrier to align secondary sun gear (part of

primary carrier assembly (21)) with planet gear teeth in secondary carrier assembly (20).

STEP 17

Assemble the third carrier assembly (22) into the ring gear (19). It will be necessary to rotate carrier to align secondary sun gear (part of third carrier assembly (22)) with planet gear teeth in primary carrier assembly (21). Assemble sun gear (23) over input shaft (2). Rotate sun gear (23) to align input shaft (2) to the octagon and gear teeth in third carrier assembly (22).

STEP 18

Lubricate "O" ring (29) and assemble in groove inside cover hole, push disengage plunger (30) into cover (26) with pointed end facing inside of unit.

STEP 19

Lubricate "O" ring (25) and assemble in groove inside gear ring (19).

STEP 20

Assemble the disengage cover (31) with dimpled center protruding out if wheel is to be used to drive the vehicle. Assemble and torque the two 5/16-18 x 1/2 inch bolts (32). Torque bolts to 10 - 20 lb.-ft. (13 - 27 Nm).

STEP 21

Assemble the thrust washer (24) with tangs engaged with cover (26). **Note:** A small amount of grease applied to the backside of thrust washer (24) will hold washer in place. Press cover (26) into gear ring (19). Assemble ring retainer (27) into groove of gear ring.

STEP 22

Invert the Power Wheel assembly and assemble the coupling (1), with counter bore out, to the input shaft (2).

STEP 23

After motor is assembled to drive or drive is sealed at spindle, fill with lubricant to proper level and install pipe plug (28) torque to 11-25 lb.-ft.

NOTE: When installing a hydraulic motor to the Power Wheel drive it is necessary to place an "O" ring or gasket (not supplied by Auburn Gear) between the motor and the planetary drive. "O" ring sizes: SAE A 2-042, SAE B 2-155, SAE C 2-159.

CARRIER ASSEMBLIES

It is recommended that the third, primary and secondary carrier assemblies (20, 21 & 22) be serviced in their entirety to protect the integrity of the Power Wheel drive.

LUBRICATION RECOMMENDATIONS

IMPORTANT: POWER WHEEL PLANETARY DRIVES ARE SHIPPED WITHOUT LUBRICANT AND MUST BE FILLED TO THE PROPER LEVEL PRIOR TO START UP.

Observe lubrication recommendations given by the original equipment manufacturer. When specific recommendations are not available, use mild extreme pressure lubricant API-GL-5, No. 80 or 90 when filling the Power Wheel under normal temperature ranges between 0 - 120°F (-18 to 49°C). Power Wheel is to be half full of oil when unit is mounted level and horizontal. Use drain and fill plugs located in cover and ring gear. Oil is to be changed after first 50 hours of operation with subsequent changes every 1000 hours or yearly, whichever ever comes first. If unit is to be operated vertically, if ambient conditions are outside the specified range, or if the oil temperature exceeds 200°F (93°C) contact Auburn Gear for oil and level recommendations.

TOWING VEHICLE

CAUTION: The Power Wheel will not normally be damaged by towing; however, the hydraulic drive components may be damaged unless the Power Wheel is disengaged from the drive motor. Road speeds in excess of 25 MPH should be avoided unless clearly specified to be permissible by the equipment manufacturer.

TO DISENGAGE POWER WHEEL

CAUTION: For units equipped with the standard spring disconnect, assemble the disengage cover (31) with the dimpled center protruding inward. For units equipped with the optional quick disconnect, push in center plunger of disconnect.

STORAGE

A protective film is applied to the Power Wheel at the factory to prevent rust during shipment. Additional protection may be required if the Power Wheel is to be stored for an extended period of time.

SEALING COMPOUND

Silastic RTV732 sealer and General Electric Silimate RTV No. 1473 or RTV No. 1503 are currently recommended for sealing gasket surfaces. Sealant should be applied in a continuous bead, which should be centered on the surface to be sealed but should move to the inside of the hole at each bolthole location. For service requirements order Auburn Gear part number 604101.

SPECIFICATIONS

Maximum intermittent output torque 70,000 lb. in. (7,910 Nm)
 Maximum input speed 5,000 RPM
 Oil capacity 31 oz (920 CC)

ITEM NO.	DESCRIPTION*	NO. USED IN ASS'Y.	ITEM NO.	DESCRIPTION*	NO. USED IN ASS'Y.
1	Coupling	1	19	Ring Gear	1
2	Input Shaft	1	20	Secondary Carrier Assembly	1
3	Spindle	1	21	Primary Carrier Assembly	1
4	Oil Seal	1	22	Third Carrier Assembly	1
5	Bearing Cone	1	23	Primary Sun Gear	1
6	Bearing Cup	1	24	Thrust Washer	1
7	Wheel Bolt	9	25	"O" Ring 60114104	1
8	Pin Coiled Spring	4	26	Large Cover	1
9	Bolt Hex Head (Grade 8)	6	27	Retaining Ring	1
10	Hub	1	28	Magnetic Plug	1
11	Bearing Cup	1	29	"O" Ring	1
12	Bearing Cone	1	30	Disengage Plunger	1
13	Thrust Washer	1	31	Disengage Cover	1
14	Lock Washer	1	32	Hex Head Bolt	2
15	Bearing Nut	1	OPTIONAL DISCONNECT		
16	Disengage Spring	1	33	Gasket 904501	1
17	Washer	1	34	Quick Disconnect 949001	1
18	Retaining Ring	2	35	Bolt Hex Head 618316	2

* Contact Auburn Gear with part number and order code of drive to obtain the appropriate parts list. Refer to parts list for the specific part numbers and quantities.

Model 75 Power Wheel® Service Kits

Part No.	Description	Included Items
596Z	Bearing Locknut Tool	Not Shown
598E	Bearing Cone Driver	Not Shown
598FF	Spindle/Shaft Drive Tool	Not Shown

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